

Trend Study 20-3-03

Study site name: Mountain Home Seeding.

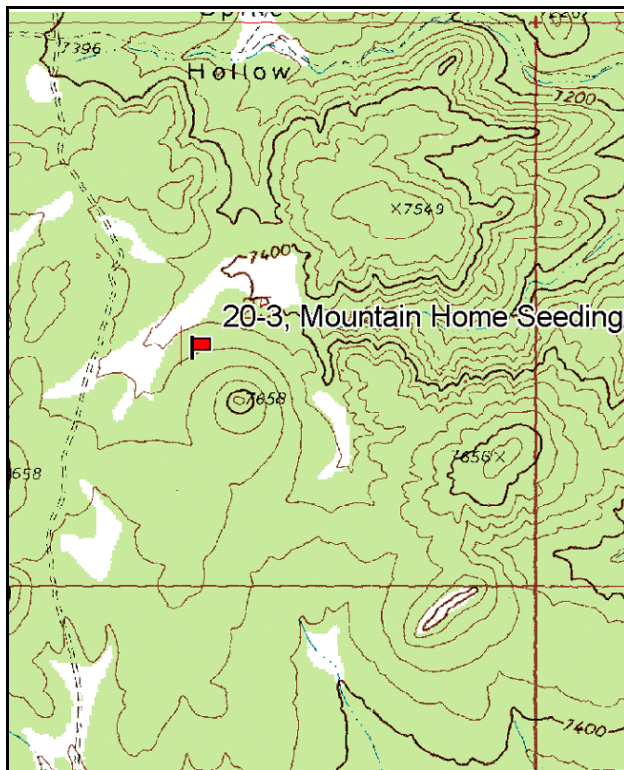
Vegetation type: Burn.

Compass bearing: frequency baseline 180 degrees magnetic.

Frequency belt placement: line 1 (11ft), line 2 (34ft), line 3 (59ft), line 4 (71ft), line 5 (95ft).

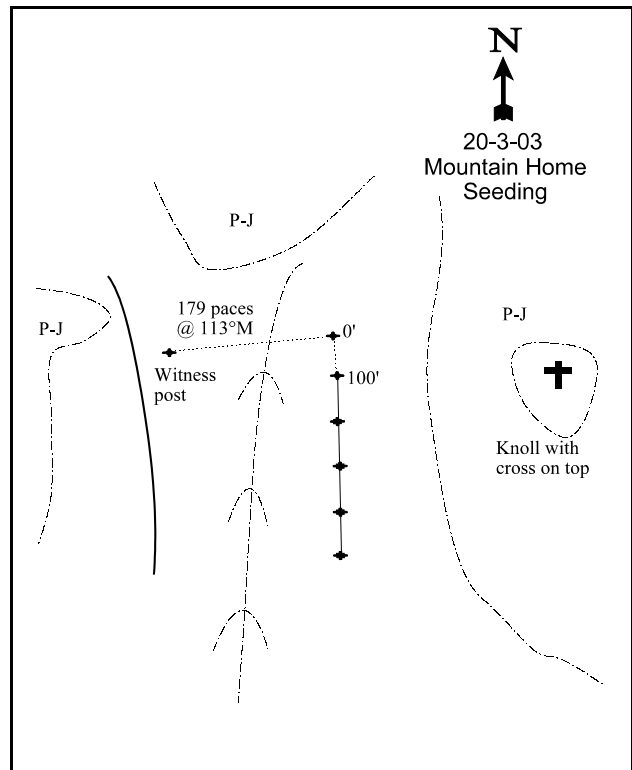
LOCATION DESCRIPTION

From the Indian Peaks cabin drive to the main Pine Valley Road. Turn left (north) and drive about 2.0 miles to a fork which is labeled with a sign saying "Hamblin Valley Road 15 miles." Drive west on this road avoiding side roads about 12.0 miles to a four-way intersection. The sign reads "Lopers Spring 6.0 miles" to the north. Turn right (north) and drive 6.2 miles to a witness post on the right side of the road. (You will pass another 4 way intersection at about 3.7 miles.) The 0-foot stake is 170 paces from the witness post at 113 degrees magnetic. The 0-foot stake is marked with browse tag #143.



Map Name: Lopers Spring

Township 27S, Range 19W, Section 25



Diagrammatic Sketch

GPS: NAD 27, UTM 12S 4257365 N, 244883 E

DISCUSSION

Mountain Home Seeding - Trend Study No. 20-3

The Mountain Home Seeding was established in 1998 on a burned and chained pinyon-juniper area. It has a west, northwest aspect with a gentle slope which varies from 3% to 7%. Elevation is about 7,500 feet. This treatment area is used heavily by wild horses and moderately by elk. The site is available most of the year. Escape and thermal cover are available at the edge of the treatment about 200 feet east of the study site. Pellet group data collected on site in 1998 estimated 55 horse, 27 elk, and 7 deer days use/acre (136 hdu/ha, 67 edu/ha, and 17 ddu/ha). Some of the elk sign was recent with the study site being read on June 9th, 1998. In 2003, most use was for horses estimated at 48 days use/acre (118 days use/ha). Elk use was also moderately high at 40 days use/acre (98 days use/ha). Cattle and deer use was insignificant at less than 3 days use/acre (7 days use/ha).

Soil at the site is moderately shallow with an effective rooting depth of just over 12 inches. Parent material is granite. Soil texture is a sandy loam which is slightly acidic in reaction (pH 6.3). Rock and gravel sized pavement are common on the surface and throughout the profile. There is some localized soil movement occurring on the site, although it does not appear to be a problem at this time.

A few mountain big sagebrush and resprouting rabbitbrush were encountered in 1998 and 2003. However, almost all of the shrubs were eliminated by the fire. Currently, the few palatable shrubs that occur on the site (mostly mountain big sagebrush), were classified as heavily utilized. Dead pinyon and juniper stumps numbered approximately 80/acre.

In 1998, the site was initially dominated by seeded grasses, primarily crested wheatgrass, which provided 84% of the grass cover. Smooth brome and intermediate wheatgrass were also fairly common. All grasses combined produced 30% cover. In 2003, with continuing dry conditions, grass cover has decreased by almost 70%. For example, crested wheatgrass has gone from producing 25% cover in 1998 to less than 9% in 2003. Overall, the three most common perennial grasses all significantly decreased in frequency and cover. Productivity is very poor compared to 1998. Forbs are fairly diverse, but not abundant producing less than 1% cover. The most common forb in 1998 was alfalfa which provided 35% of the forb cover. It declined significantly in 2003 and was only sampled in 1 quadrat.

1998 APPARENT TREND ASSESSMENT

The soil appears to have been stabilized by the treatment. Herbaceous cover is abundant and well dispersed. There are few shrubs on the site. Establishment of a significant shrub population will take many years within the thick herbaceous cover unless they are inter-seeded. Seeded perennial grasses are well established and should remain so as long as the site is not overgrazed. However, the compositional diversity is poor with crested wheatgrass dominating the site. Forbs are very limited.

2003 TREND ASSESSMENT

The trend for soil now appears to be going downward with the loss of both vegetative and litter cover to the extended drought. They have decreased by 70% and 55% respectively since 1998. There are still very few useful shrubs growing on the site. Trend is considered stable but poor. All together they barely provide 1% cover. With the current weather conditions, it will be a long time before a significant shrub population becomes established on this site. Total herbaceous cover has decreased by almost 70%. The perennial grasses have been severely depressed by the length of the drought and utilization by wild horses and elk. The compositional diversity continues to be very poor with crested wheatgrass still dominating the site. Forbs

continue to be very limited.

TREND ASSESSMENT

soil - down (1)

browse - stable (3)

herbaceous understory - down (1)

HERBACEOUS TRENDS --

Management unit 20 , Study no: 3

T y p e	Species	Nested Frequency		Average Cover %	
		'98	'03	'98	'03
G	Agropyron cristatum	_b 352	_a 318	25.30	8.56
G	Agropyron intermedium	_b 34	_a 18	.90	.08
G	Aristida purpurea	5	-	.15	-
G	Bromus inermis	_b 115	_a 82	3.25	.67
G	Bromus tectorum (a)	_b 84	_a 29	.65	.12
G	Sitanion hystrix	3	-	.03	-
Total for Annual Grasses		84	29	0.64	0.12
Total for Perennial Grasses		509	418	29.64	9.32
Total for Grasses		593	447	30.29	9.44
F	Astragalus spp.	1	-	.00	-
F	Collinsia parviflora (a)	_b 11	_a -	.03	-
F	Cymopterus spp.	_b 34	_a 2	.11	.00
F	Descurainia pinnata (a)	2	-	.03	-
F	Gilia spp. (a)	_b 25	_a -	.08	-
F	Halogeton glomeratus (a)	-	2	-	.00
F	Lappula occidentalis (a)	5	-	.01	-
F	Lupinus argenteus	3	-	.00	-
F	Lygodesmia spinosa	1	5	.03	.15
F	Medicago sativa	_b 7	_a 1	.22	.03
F	Microsteris gracilis (a)	_b 24	_a -	.05	-
F	Phlox longifolia	_a 1	_b 7	.00	.02
F	Sphaeralcea coccinea	2	-	.03	.00
Total for Annual Forbs		67	2	0.21	0.00
Total for Perennial Forbs		49	15	0.41	0.21
Total for Forbs		116	17	0.62	0.21

Values with different subscript letters are significantly different at alpha = 0.10

BROWSE TRENDS --

Management unit 20 , Study no: 3

Type	Species	Strip Frequency		Average Cover %	
		'98	'03	'98	'03
B	Artemisia tridentata vaseyana	0	1	-	.00
B	Chrysothamnus nauseosus	0	0	-	.03
B	Chrysothamnus nauseosus hololeucus	0	2	.38	1.00
B	Chrysothamnus parryi	0	1	-	-
B	Gutierrezia sarothrae	0	1	-	.00
Total for Browse		0	5	0.37	1.03

CANOPY COVER, LINE INTERCEPT --

Management unit 20 , Study no: 3

Species	Percent Cover
	'03
Artemisia tridentata vaseyana	.28
Chrysothamnus nauseosus	.53

BASIC COVER --

Management unit 20 , Study no: 3

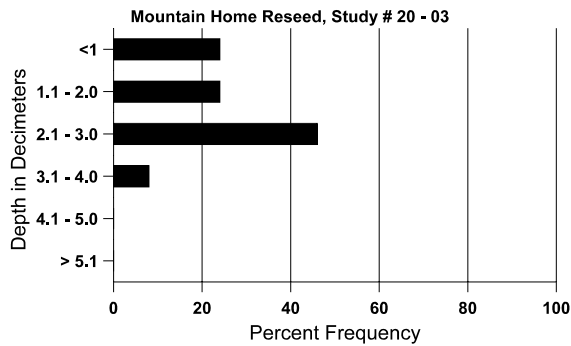
Cover Type	Average Cover %	
	'98	'03
Vegetation	35.65	10.62
Rock	13.67	11.80
Pavement	23.51	24.60
Litter	42.54	18.95
Cryptogams	.04	0
Bare Ground	15.58	41.51

SOIL ANALYSIS DATA --

Management unit 20, Study no: 3, Study Name: Mountain Home Reseed

Effective rooting depth (in)	Temp °F (depth)	pH	%sand	%silt	%clay	%OM	PPM P	PPM K	ds/m
12.2	65.0 (13.8)	6.3	70.0	15.1	14.9	2.1	21.5	163.2	0.6

Stoniness Index



PELLET GROUP DATA --

Management unit 20 , Study no: 3

Type	Quadrat Frequency		Days use per acre (ha)	
	'98	'03	'98	'03
Rabbit	5	-	-	-
Horse	30	27	44 (109)	38 (95)
Elk	27	16	16 (40)	39 (98)
Deer	14	7	7 (17)	3 (7)
Cattle	-	1	-	1 (2)

BROWSE CHARACTERISTICS --

Management unit 20 , Study no: 3

		Age class distribution (plants per acre)					Utilization				
Y	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% poor vigor	Average Height Crown (in)
Amelanchier utahensis											
98	0	-	-	-	-	-	0	0	-	0	-/-
03	0	-	-	-	-	-	0	0	-	0	9/21
Artemisia tridentata vaseyana											
98	0	-	-	-	-	-	0	0	-	0	30/40
03	20	-	-	20	-	-	0	100	-	0	30/48
Chrysothamnus nauseosus											
98	0	-	-	-	-	-	0	0	-	0	-/-
03	0	40	-	-	-	-	0	0	-	0	42/61
Chrysothamnus nauseosus hololeucus											
98	0	-	-	-	-	-	0	0	-	0	35/48
03	40	-	-	40	-	-	50	0	-	0	33/49

		Age class distribution (plants per acre)					Utilization				
Y e a r	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% poor vigor	Average Height Crown (in)
Chrysothamnus parryi											
98	0	-	-	-	-	-	0	0	-	0	-/-
03	20	-	-	20	-	-	0	0	-	0	11/10
Chrysothamnus viscidiflorus viscidiflorus											
98	0	-	-	-	-	-	0	0	-	0	-/-
03	0	-	-	-	-	-	0	0	-	0	12/21
Gutierrezia sarothrae											
98	0	-	-	-	-	-	0	0	-	0	-/-
03	20	-	20	-	-	-	0	0	-	0	6/5
Juniperus osteosperma											
98	0	-	-	-	-	40	0	0	-	0	-/-
03	0	-	-	-	-	-	0	0	-	0	-/-
Pinus monophylla											
98	0	-	-	-	-	40	0	0	-	0	-/-
03	0	-	-	-	-	-	0	0	-	0	-/-
Ribes spp.											
98	0	-	-	-	-	-	0	0	-	0	-/-
03	0	-	-	-	-	-	0	0	-	0	28/22